

Title: Baxter Infusion Pump	Disclaimer: This procedure provided "as is" and with possible faults. User must verify before use. Neither provider nor website assumes any responsibility for its use.
DATE: 8-29-2008	
Rev 11-15-2011 Disclaimer Update	
File = Flo-Gard3 .com	

1. General

Applies to the Baxter Flo-Gard Infusion Pump

2. Reference Documents: Flo-Gard 6201 Service Manual

3. Tools / Fixtures / Labels

Safety Testor: Dale 601

Buret or scale (preferred)

4. Initial Inspection

Clean unit as required. Common problems are internal breakage due to dropping.

5. Mechanical and Electrical Safety Inspection

5.1. Door movement – opens up slightly passed 90 deg. The latch should not swing past horizontal. Check the small round nylon cover on the latch pin.

5.2. Check Pole Clamp (allen nut, rubber surface)

5.3. Label Integrity

5.4. Line Cord Integrity (< .500 ohms)

5.5. Equipment Frame Leakage (< 300 uA)

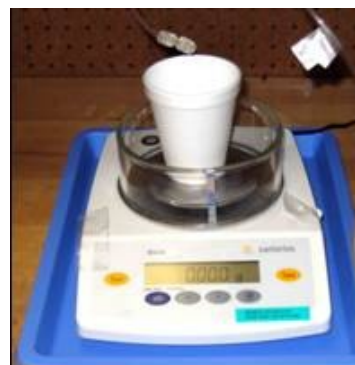
Note: For remainder of this procedure, run unit unplugged to check battery quality.

6. Basic PM Procedure

- 6.1. Check date date/time and update if necessary using check config initiated by simultaneously pressing the rear switch button, On/Off, and Stop. Hitting “Clear Tot Vol” button cycles thru all the options.
- 6.2. Other Configuration Checks: Using above configuration mode:
 - Check software revision level for 1.10 or better (using <Silence><On-Off>).
 - All parameters are default per the 6201 service manual except “Insert Clamp” -> Alarm
- 6.3. Open/Close the Door to give corresponding display alert.
- 6.4. Simultaneous Flow, Volume and Secondary to Primary Transition Test:

Set Pri Rate = 375, Pri Vol = 5, Sec Rate 250, Sec Volume = 5.

Set burette to a known starting level; press Sec Start which should start a 2 stage delivery of 10 ml total. Open door while running to temporarily cause a stop/alarm.
- 6.5. Accept 9.5 - 10.5 mL (See Appendix); total elapsed time = 2 min
- 6.6. Upper Occlusion Check – run unit at 100 – 200 ml/min and pinch hose upstream. Note alarm “Upstream Occlusion”.



- 6.7. Lower Occlusion Check – switch the pressure gage into the output circuit and occlude. Run unit at 100 ml/min and note pressure (assuming Occlusion level has been set to 1.) Display will soon read “Occlusion”. The acceptable pressure is 6- 9 psi.
- 6.8. Air-In-Line Detection - To save time, set Pri Flow to 500 and volume = 5-10mL. Tip the air trap in the upstream line to form at least 1 bubble ¾” long or less. Alarm soon will occur as “AIR”. Press “Pri Start”.
- 6.9. Re-label: Replace old PM label with dated and initialized green. Protect by applying clear cover label.
- 6.10. Close work order and then enter performance data..

APPENDIX (Troubleshooting/Adjustments)

OCCCLUSION LEVEL ADJUSTMENTS

Turn on unit by holding down <Clear Total Volume>, <1>, <On>

The display will show the following number array:

	Occlusion Values (on left side)	Battery Info (on right side)
UPPER	3242 – 3314 (avg = 3278)	688-714 (Battery charge quality)
LOWER	2967 – 3039 (avg = 3003)	574-737 (Lithium battery)

CLAMP SENSOR DETECTORS – CLEANING

There are two sensors to clean – one up front, and one in the back which requires opening the unit and cleaning with a Q-tip. When cleaning does not remedy clamp sensor detection, the clamp sensor circuit may need calibration:

Enter diagnostic mode via <Clear Tot Volume>, <1>, <On/Off>

Clamp In < 0.50 volts; Clamp Out > 4.2v

DUAL CHANNEL					SINGLE CHANNEL	
Plug a molex into CNTEST2						
Pin1	2	3	4	Pin5		
Pump 2		Pump 1				
VR803		VR805			TP802	Adj VR802

SLIDE CLAMP CONNECTOR – 3 WIRE TRANSFER ON 9 PIN CONNECTOR

The last 3 wires (empty slots on new connector) have color sequence gray, brown, purple (end).

VOLUME ACCURACY NOTE: Baxter specs are +/- 3%.

FORCE SENSING FLEX RESISTORS -- Good resistance will range from 140K to 210K. For digital readout, use test mode 2: <Clear Tot Volume>, <2>, <On/Off> Note: With no tubing or even tubing loaded/centered properly, there is no change in resistance when door is closed.

AIR SENSOR DIAGNOSTIC Enter test mode 2 using <Clear Tot Volume>, <2>, <On/Off>.

Pri RateWindow (400-650)	Ignore
Pri Vol Window (400-650)	Ignore

An empty tubing set will give a reading less than 11. A tube with fluid will read 400-650. If dual pump, check both sides.